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Bee-Culture in Cottage Hives.
No. 11.

There are some sections of the globe wholly unsuited for bee-culture—such as the northern and southern polar regions; and in these the honey-bee is not found. Almost everywhere else that insect is met with, and wherever it is found existing in a wild state, bee-culture may be prosecuted with success, to a greater or less extent.

This may be regarded as a fundamental principle, though it must be conceded that in all parts of the temperate zone the poorer honey districts are more numerous and extensive than those of prime quality. The particular system to be adopted, or the mode of management best adapted to each section, is consequently a subject of investigation and study. Yet it does not seem practicable to classify the various districts rigidly as some writers, such as Palteau, Morlot, and Magerstedt have attempted to do. The three classes which they have arbitrarily assumed could only be characterized in general terms, and a slight examination shows that each of them may again be subdivided into ranges of various degrees of importance. It is obvious likewise that what is said of any one of these classes, holds true in reality of only a very circumscribed area, determined by the location of the apiary, as the radius of the bee's flight for profitable honey-gathering does not extend beyond two miles. The honey product, moreover, of the same district, even of the best class, differs greatly in different years, according to the crops which happen to be cultivated there. It is also affected to a very great extent by the differences of seasons, late frosts, continued rains, protracted drought, the occurrence or non-occurrence of honey-dews—all of which seriously interfere with the labors of the bee and the secretion of honey. Hence it is not so much simply the abundance of honey-yielding plants on which the excellence of a district depends, as on the mildness of the climate, the equableness of the season, and the proximity and duration of forage.

However abundant the natural sources of honey may be, if the climate be rough and ungenial, the bees will rarely be able to avail themselves thereof to any appreciable extent beyond what their own wants require.

Without attempting therefore to set up any arbitrary classification, we shall merely specify some of the leading characteristics by which the chief districts are distinguished. *Poor* districts are those in which bees, when left to their natural instincts, seldom swarm, and never yield any surplus honey—such, in fact, in which they barely subsist, and in which nothing but intelligent culture on a scientific method can produce compensating results.

This unpropitious condition is caused chiefly by late springs, high winds, and cold, wet weather prevalent in May, and not unfrequently even in June. An elevated position, too, or a location where converging narrow valleys form a channel for chill currents of air, is an unfavorable site for an apiary, especially in the vicinity of lofty mountains from which the snows of winter slowly disappear. In such situations, bees generally derive small benefit from the early blossoming shrubs and plants, nor even from orchards, which, somewhat later, present their boundless blush of mingled blossoms. A *poor* honey district may hence be designated as one in which we cannot always feel assured that prime swarms will be able to secure adequate supplies of honey for the winter. A *medium* district, on the other hand, is one in which prime swarms are usually sure of being able to provide for their wants during the entire year. The difference between these two commonly arises from the single circumstance that, in the latter, certain spring crops are cultivated and allowed to mature their seeds, so that when propitious weather finally succeeds the winter, which has been long "lingering in the lap of May," ample and protracted pasturage is presented to the now liberated denizens of the hive. But the crowning grace is found where, in addition to this, white clover abounds as a natural growth, and buck-wheat is cultivated as a fall crop, though these are not included in the customary rotation of crops which constitutes the agricultural curriculum of the district. The difference is therefore to be regarded rather as casual and accidental than as permanent.

Rich honey districts are those in which not only a regular increase of stocks, by natural swarming, can be counted on, but where an annual yield of surplus honey is equally certain, though varying in amount.

This is the case, for the most part, where the bees enjoy a regular succession of pasturage, and a mild climate fosters the secretion of honey, and favors the indefatigable labors of the nectar-loving insect. Where extensive orchards exist; where locust groves and linden trees are found; where white clover abounds; where rape and esparsette are cultivated, and where the golden rod and the aster predominates in the autumnal flora, there the real Eldorado of bee-culture exists; but, alas, in all our perambulations we have never yet chanced to discover it.

In every country, even the seemingly most-favored region, there will always be found some *hiatus* sufficiently large and wide to prove that the site comes short of that perfection which constitutes the *beau ideal* in the bee-keeper's imagination. No such perfect scene is met with in wide-spread Germany, nor in *la belle France*, nor in *merrie England*, all of which are densely populated and highly cultivated. The case is bravely altered, however, already in such half-reclaimed countries as Russia, Hungary, and Turkey; and it reaches a still closer approximation to the desired acme of completeness in the yet wilder southern regions of the New World. In these latter, where an almost uninterrupted summer prevails, and bees revel amid a profusion of flowers and everdistilling nectar, an almost incredible increase of stocks may be effected, because it is there scarcely possible to repress, or in any degree control natural swarming. Thus the two hives of bees which Mr. Hanneman, who emigrated from Germany to Brazil in 1852, took with him, increased to twenty-eight the first season, and from these he obtained three hundred and seventy-seven swarms the following year.

Precisely the reverse of this ocurs in those districts of Europe characterized as *poor*. In them there is an almost total absence of the swarming impulse, unless where generated by mismanagement, or fostered by the injudicious use of small hives.

And, in view of the comparative poverty of even our best honey districts, when contrasted with the superabundance of those more favored regions, it might well be asked whether it were not wise to abandon bee-culture altogether. This might be so, if we were dwelling in a country so barren of natural flowers that the secretion of honey would be regarded as a rare occurrence.

But such is not the case. Almost everywhere supplies ample for an ordinary apiary exist; and they abound especially where improved agriculture has not yet been extensively introduced. Besides, in all ordinary districts, bee-culture will in the main always be treated by the farmers as a secondary pursuit, demanding only a small portion of their time, and requiring no investment of capital. It is and can be attended to without neglecting other engagements, and its products are thus in reality clear gain, constituting in the aggregate an immense saving to the community. Thus, in the late kingdom of Hanover, there are hundreds of common farmers who have from 100 to 200 hives on their premises, and superintend them without any important interference with their ordinary labors on the farm; and in Poland there are many farms on each of which more than a thousand hives are kept with great profit, as a mere incidental adjunct of the establishment. These are countries, the soil of which is by no means celebrated for fertility; and similar results could undoubtedly be realized in more favored regions.

A number of writers, indeed, such as Putsche, Morlott, Nutt, and others, have made minute calculations to show the exceeding profitableness of bee-culture when prosecuted on an extensive scale, by which they exhibit an annual percentage of gains truly inviting and delightful to men of speculative tendencies—doing the whole matter up as ingeniously and as successfully, too, as Captain Bobadil used up the enemy's army "by computation." They, however, forgot to take into account the fact that for such success a perfect system of management, unflaggingly pursued by a skilled expert, under circumstances everywhere and at all times adapted to advance and secure the object, and all this in a country and climate in all respects specially favorable, are absolutely indispensable, and as absolutely unattainable.

We must hence content ourselves with the assurance that in every part of the country where utter barrenness does not prevail, bee-culture may be prosecuted with profitable results, if it be managed judiciously; and that under such management the present product of honey and wax, in any district, may easily be quadrupled.

NATURAL swarms require feeding if bad weather of several days continuance occur immediately after they are hived, as otherwise the stores they carry with them from the parent stock may be exhausted, and famine ensue. Artificial colonies demand such attention more imperatively, because the bees, being taken unawares, when separated from the parent stock, will not have provisioned themselves for the occasion.

IN THE *Monthly Magazine* for September, 1825, an instance is recorded of five swarms being thrown off and hived before the end of July, from planting a single stock. The season, however, was favorable, and the situation particularly so. They did not all issue from the first or parent stock, but from that and the earliest swarm.

THE young queens that conduct the secondary swarms usually pair the day after they are settled in their new abode. Then the indifference with which their subjects have hitherto treated them is exchanged for the usual respect and homage.

[From the Bienenzeitung]

Multiplication of Stock.

The question whether artificial multiplication of colonies or natural swarming is most advantageous in the management of an apiary, has been greatly discussed. Some bee-keepers contend for natural swarming exclusively, while others advocate with equal zeal an exclusive resort to artificial multiplication. Each occupies an extreme position, and the truth probably lies somewhere between. Artificial swarming unquestionably secures many advantages, if regulated by a due regard to season and circumstances.

Artificial multiplication, as a means of enlarging an apiary, can obviously be beneficial only when increase is of itself useful and desirable. In poor or very ordinary seasons, when even non-swarming colonies find it difficult to secure an adequate supply of winter stores, a free resort to this convenient mode of adding to the number of our stocks, could only prove detrimental, if not ruinous. Whereas, in seasons when honey resources are abundant, and natural swarms issue early and numerously, artificial multiplication would be at least unnecessary and superfluous.

But, when the season is good—though, owing to the dryness of the weather or a temporary or local cause, natural swarms do not issue or are greatly delayed—the artificial process may be resorted to with great advantage.

This was the case last summer in Germany. The preceding winter had been unusually mild, and the spring found our stocks in excellent condition. Early in May already, they were very populous; but natural swarms were exceedingly rare. The cause of this was to be found, in part, in a long continuance of dry weather, conducing rather to the collecting and garnering of stores than the production of brood, but in part also by the unusually cold weather prevailing after the 20th of May, when not only frost occurred, but ice was formed. This checked and repelled the swarming impulse even in the strongest colonies, and caused them to destroy their drone-brood to such extent, that the ground in front of some Italian stocks designed to furnish an early supply of drones, was literally covered with the nymphs and larvæ thrown out. Only one colony produced a swarm on the 25th of May, the day after the last spring frost, and another yielded one in June. Though the weather now rapidly improved, and the bees were soon again supplied with ample pasturage, the swarming impulse had vanished for the season, and all their energies were directed to the storing-up of honey. In this condition of things I resorted seasonably to artificial multiplication, and the early-formed colonies throve remarkably, quickly filling their hives with combs, and gathering a considerable amount of surplus stores. If the old stocks, which supplied the bees and brood for these artificial colonies, were somewhat retarded thereby, this was more than compensated by the productiveness and value of the new colonies. Experience has long since shown that, in favorable seasons, when pasturage is good and of long continuance, the parent stock, together with the colonies formed therefrom, will be much more productive than one which remained undivided. For then, by seasonable division, we obtain an increased number of colonies, in which not only more brood will be produced, but more active industry developed.

We are occasionally advised to use artificial multiplication only so long as we desire to enlarge our apiaries, and depend on natural swarming afterward, to keep up stock. The ground for such counsel is not very obvious. That which is advantageous in a small apiary, is not likely to prove otherwise in a large one. It is not the number of colonies we possess, but the nature of the weather and amount of pasturage available, that must determine our course; and no intelligent bee-keeper will doggedly confine himself to a fixed number of colonies, knowing that by uniting in the fall he can easily reduce his apiary again to a manageable size for the winter. In the case of a large apiary of colonies populous in the spring, I would rather advise early and free multiplication, thus subdividing the incident labor of superintendence, and preventing possible perplexity and loss from frequent or excessive natural swarming. He that has had some experience in supervising a large apiary knows well the toil and vexation which may be anticipated, when, at the swarming season, a clear warm day follows a long continued spell of cloudy and wet weather.

It is precisely in a large and well-stocked apiary that the advantage of artificial multiplication becomes manifest, and the practise of it is at the same time rendered convenient. By taking a queen from one colony, a quantity of bees from another, a comb of brood from a third, and one of honey from a fourth, we quickly form a new colony, without in the slightest degree damaging the old. On the contrary, the occasional reduction of force keeps the populous old stocks from making preparations for swarming, maintains their customary honey-gathering impulse, and promotes the steady accumulation of stores. The permanent prosperity of the colonies can thus be simultaneously secured by removing superannuated or enfeebled queens, and causing young ones to be reared.

It is scarcely necessary to remark that it is only by means of the movable comb-hive that all the advantages here indicated can be secured. With common hives in which the combs are, as it were, a fixture, division, as we employ it, is unpracticable. Drumming or driving must be resorted to instead, and frequently proves to be a failure in precisely those cases in which success would be highly beneficial—the removal, namely, of a superannuated queen.

The possession of two apiaries, situated two or three miles apart, greatly aids and facilitates artificial multiplication. By means of a fertile queen a swarm may then be easily and successfully formed. We add to her the requisite number of workers taken from several populous hives in the one apiary, and place them in a hive on the stand in the other, and our object

is attained. Such a colony differs from a natural swarm in this, that the bees having been taken at unawares, did not take with them a supply of honey, and might suffer from want, if long confined by stress of weather. It is prudent, therefore, always to insert in these hives, on placing them in their new location, a comb well supplied with honey; and it is not amiss to give them a comb with maturing brood, as they will thus be sooner reinforced with workers, and will be kept from deserting their hive, as they are otherwise at times disposed to do.

Nearly all my artificial colonies were formed in this manner, and not one failed to thrive. An incredible quantity of bees may safely be removed from a good colony in the course of the summer; and the number of stocks may then be very largely increased, if pasturage continues to abound during a protracted period. The removal of bees for the supply of an artificial colony can be greatly facilitated by inserting a frame with empty comb in a populous colony. On this the workers will speedily collect, and, when lifted out, they are easily shaken off to the ground by a sudden jar, and may be allowed to run into the hive intended for them.

Where the advantage presented by two separate apiaries cannot be enjoyed, a different process of multiplication may be resorted to on the somewhat Hibernian plan of forcing *volunteer swarms*, by removing the queen from such stocks as we wish to divide. Queens will then be raised, and, if the weather be favorable and the bees be encouraged by occasional feeding, swarms will issue in about two weeks; and these again may be rapidly built up by transposing them with some populous colonies, or queen-cells may be given to small nuclei composed chiefly of young bees, which, if kept in a dark chamber for forty-eight hours, will mostly adhere to their hive wherever placed. If kept supplied with brood, they will not desert their home; and by transfer to a large hive when the young queen begins to lay, and the regular introduction afterwards of brood-combs taken from strong stocks, the new colony may be rapidly built up and got into a flourishing condition.

DZIERZON.

REAUMUR put some nests of wasps under glass-hives, and succeeded so effectually in reconciling these little restless creatures to them, that they carried on their various works under his eye. If others were to follow his example, there is no doubt many parts of their history still in darkness would soon be elucidated.

IN collecting honey, bees do not solely confine themselves to flowers. They will sometimes very greedily absorb the sweet juices of fruits.

For the American Bee Journal.

A Suggestion.

Experience has decided in favor of the superiority of the Italian over the common black bee. The difficulty of securing pure fecundation of the queens of the first-named variety is the principal obstacle to its general introduction and exclusive cultivation.

The fact is well known that to prevent the evils of breeding in and in, young queens instinctively direct their matrimonial flights to a great distance, in order to meet drones from unrelated colonies; hence, as the black variety, domesticated and wild, is the more common, very many of our young Italians will become impurely fecundated, though all of our own stocks are pure Italians.

In certain localities this difficulty is obviated by raising and fecundating such queens where no black drones exist. This may be accomplished on the islands in Lake Erie and Long Island sound, and also on some of the extensive prairies in the West. Such localities are, however, not within the reach of a majority of the bee-cultivators in the United States.

Some other reliable expedient is desirable. Let me suggest one which may perhaps on trial prove successful.

Any desirable number of young Italian queens can be reared in small nucleus hives at midsummer, when flowers are yielding a profusion of stores, provided the apiarian can command one colony of pure Italians to furnish worker eggs. No difficulty interferes till the young queens, on or subsequent to the fourth day of their existence in the perfect insect state, issue from the hive and fly in search of drones. For this movement they usually select clear, mild, and calm weather, about mid-day, a period when the drones take their out-door exersise.

It is now well known that the union of the two sexes takes place only while they are on the wing. I have good reasons for believing that this meeting can be superintended and regulated at the will of an expert.

Suppose that at the close of the third day of a queen's existence she be restrained in the hive by the mode suggested in Mr. Langstroth's Treatise on The Honey-Bee, till a coincidence of time and circumstances renders it proper for her to make her excursion abroad. All things prepared, aided by an assistant, carefully secure her and tie to one of her legs an end of the finest and lightest filament obtainable of cotton, silk, or spider's web of suitable length and strength. Perhaps the spider web, obtained in the manner figured and described in *Harper's Magazine*, March, 1867, p. 455, would answer the purpose. *Tissue*, a fine, gossamer-like filament of silk, found in a few of our best dry-goods establishments, would be the preferable article.

In tying knots in such filaments, while performing certain analagous operations, I have found it convenient to employ the aid of a well-adjusted pair of dissecting forceps.

The other end of the filament should be secured in one hand of the experimenter.

Thus managed, approach the front of a hive

of Italian bees at the time a heavy column of drones is passing out and in, and then let the captive queen fly among them. It seems probable that she would soon attract the attention of one or more of them.

When the intended process is completed, the knot in the tissue may be cut with a sharp-pointed pair of surgeon's scissors, and she be returned to a colony.

A suggestion is often mistaken for an assertion. The reader will do me the justice to consider this as only a suggestion. Who will test it by trial? If health and circumstances permit, I purpose to be one of the number.

JARED P. KIRTLAND.

CLEVELAND, OHIO, March 27, 1867.

For the American Bee Journal and Gazette.

Dear Bee Journal: Two things which I find upon the pages of your issue of March make me bold to write to you. One is a kind invitation, by your worthy Editor, extended to all practical bee-keepers, to write to you once in a while. Now, I claim to be a practical bee-keeper, although I am older in theory than in practice, having read all the works on bees that I could find, (and just here let me say I think "Langstroth on the Honey-Bee" is the most interesting and instructive work on bees that I have ever read. Still, I have had some practice, and hope to have more.

Another incentive to write to you is a statement which I read in March number. That to which I refer reads as follows, viz:

"Experience has taught us that winter-feeding, if the colony is feeble, is not only troublesome and expensive, but rarely of any use, because, if such do not at last perish in the spring, it will require continual nursing during the ensuing summer, and prove to be a source of vexation instead of pleasure."

Now, I very much dislike to disagree with *older people* than myself, yet my experience has been different, and I will give you one instance as an example.

One pleasant day in February, 1862, I thought I would take a look at my bees. Everything seemed satisfactory, excepting one swarm, which I had in a Quinby hive. I went a little nearer, but still saw no stir. Then I rapped gently as any gentleman would before entering the house of an honest man; but I received no reply to my call. Thinking, perhaps, the sentinels might be sleeping, I knocked again, and louder than before. Still I received no answer. Surely, thought I, they have all perished; and so, like a giant, I rudely turned their domicile bottom-side up, and gazed in amongst the combs. Contrary to my expectations, I found a very few bees; not more than a handful. Two or three came languidly down to see what I wanted. Recognizing in me a friend doubtless, they told me, as well as they could, that the rest of their comrades had perished from hunger, but that they had preserved their queen. The poor fellows seemed so downcast and sorrowful that it filled my heart with compassion and pity. I immediately moved them to a convenient room, which I subsequently made dark. I then turned some diluted honey in amongst them, that they might get a taste, and so I coaxed them to the top of the hive, where I placed some empty comb, with some of my diluted honey sprinkled over it. After I had fairly got them to eating, I covered the top of the hive with what Mr. Quinby calls "the cap," and went away and left them.

The next morning I fed them again, and I could see that they were much more lively than they were the day before. I kept feeding them every day a little—not very much at a time—for about two weeks, and then I became a little more irregular, feeding them perhaps twice during the week. It did not take me any longer to feed them than it did my chickens, and the little fellows became so accustomed to it, that they would meet me as readily as my chickens, when I came to feed them. Thus weeks passed away, and in due course of time nature began to furnish supplies for the industrious bees, and I set this poor, weak stock (now considerably stronger than when I began to feed them) upon their summer-stand. Instead of their "requiring continual nursing during the ensuing summer," I did not feed them at all after placing them upon their summer-stand, and instead of proving themselves a source of "vexation," they proved to be a source of real "pleasure." They succeeded, during the honey harvest, in *filling their hive with honey*, and made me about *twelve pounds of surplus honey*. Now, was not this a source of "pleasure" as well as profit? What an example of undaunted courage and untiring perseverance they set me!

I do not know that I have written anything which will interest any one of your numerous readers; but if, after reading this, any bee-keeper is persuaded to look at his bees, and finds only one swarm in circumstances similar to the one I have cited, and is influenced to feed them and save their innocent lives, I shall be fully paid in this feeble attempt at writing to you.

But, Mr. Editor, should you see nothing worth publishing, you are at liberty to consign my letter to the waste-basket.

Yours truly,

C. PALMER.

WINDHAM, OHIO, March 16, 1867.

For the American Bee Journal.

Prevention of Robbing.

As I see something said in the Journal with regard to preventing bees from robbing, I will give you my method, which I have never known to fail of success.

When my own or my neighbors' bees are found robbing, I cut out one or two pieces of comb containing honey from the hive that is robbing; and when they discover such wholesale depredation committed on their stores, they will all turn their attention to the protection of their own household, and the repairing of damages, and seem to conclude it is better policy to take care of what they have lawfully obtained, than to be committing such unlawful acts on their neighbors.

A. STILES.

GENOA, ILLS.

For the American Bee Journal and Gazette.

"Blessed is the Man that First Invented Sleep." —*Sancho.*

Mr. Editor: In these inventive days, when every New England chicken-croop bears the broad seal of the Patent Office impressed upon it, and every dealer in soft soap pretends to sell his meritorious wares under the protective cares of legislation; when humbugs from every State and county perambulate the nation,

"To drain the people's pockets of their hard-earned cash,
And fill their greedy ears with senseless trash."

When itinerant patent-venders make it unsafe to use the side-walk, for fear of tumbling over some altered butter-churn at every street-corner and before every public house; when the charlatanism of every quacksalver stares you in the face from every drugstore window and show-case, through the gewgaw label of its every bottle of bitters and hair-oil, and many an old maiden lady and look-at-me charming damsel is addicted to the use of patent dentifrices, of elixirs, of hashish candy, cosmetics, and other beautifying and sleekening agencies unnumbered and innumerable; when prizes of one hundred dollars are awarded by committees of judges to writers on Domestic Economy, who are so far in advance of the age that their readers cannot understand why it is that their bread-recipes contain no flour; and when everybody squats down in fawning humiliation before everybody else, in manifestation of unfeigned appreciation of everybody else's superior learning and public services, I would like to ask—Is it a wonder that the proverbial impecuniosity of learned professors even should be stimulated into the love of public benefaction, and that the amplitude of their charming rhetoric be displayed in expounding to the short-sighted vision of their inferiors the astounding merits of their *improved* bee-hives, their inimitable bee-charms, and the lilliputic outpouring of their humanizing, molecular api-pedagogy? Avalanche-like in its aggregated snow-flakes, the mellifluous literature of the hive overwhelms you with the consciousness of your own, and every bee-keeping neighbor's unimaginable and unutterable ignorance, and the sepulchral voice of Sancho Panza, resounds *ut supra.*

In the Agricultural Report of 1860, page 296, we are told that "in poor localities the capacity of a hive should not exceed two thousand, or two thousand five hundred cubic feet, while in richer ones it may reach to from *three thousand to four thousand cubic feet.*"

Here the irrelevant thought forces itself into our pen, whether good father Noah sheltered a whole swarm of bees from the impending flood, or whether he took on board the queen and a few workers only. The latter hypothesis appears to be the most logical, and at once satisfies all straight-forward thinking bee-keepers that the queen is the mother of the whole colony, and that the holy practise of dealers in *golden bees*, in shipping one queen and nine bees for $10, or three queens, twenty-seven workers, and a bottle of Bee Charm for $15, is founded upon the scriptural practise of a pious antedeluvian apiarian.

In the Agricultural Report of 1865, page 461, we are informed with a suavity truly suasory, that "about two thousand *square inches* inside is, by excellent computation, as much as can be filled by a queen with brood, and allow room for bee-bread and honey for present use," * * and that "this size also admits of room for sufficient winter stores in any season." The writer, indeed, "once thought that much less than this would winter a colony." Here, then, patent-inventors of deep bee-hives, your profundity of erudition and handiwork availeth not, and you must needs yield the point of shape and size to him, to whom you owe what little knowledge you possess, and who, in a tangent manner, has taught you the real merits of his movable comb-frames.

The dimensions of the hive last referred to, lead us to the supposition, however, that the writer furnishes his bees with woolen strait-jackets, and the queen with a set of furs to winter in, but then the more serious objection would be that his hive were a *leetle too shallow* to admit the bees and their wardrobes both. We nevertheless bow in submission to the statement of the Agricultural Bureau, withdraw with a polite courtesy and a benignant smile, and say nothing more about it.

From 1860 to 1865, a period of five years, the American mellifics seem to have so rapidly decreased in size, if we may judge from the sizes of the respective hives under review, that not till within a comparatively late period only, I could lay claim to having reached perfection in shape, size, and material for bee-hives, and here I would refer the reader to statement of invention in previous number of the *American Bee Journal and Gazette*, page —.

With this cylindric sprinkling hive and honey-box combined, and Professor Flander's "Sweet Home" and *invaluable* "Bee Charm," the time is not far off when any timid farmer's wife can produce honey with as much certainty of success as the professor and I can raise queen bees for the wholesale manufacture of our *precious fluidities*, or a market gardener raise cabbage-plants for the wholesale manufacture of "Sour-krout;" and therefore, Mr. *Bee Journal*, I beg your leave for once more expatiating upon the persuasive ingredients that enter into the charming originator's compound.

As already hinted, '*Taint* of queen bees constitutes, in itself, an unsurpassed eye-salve. In combination with Anise, we recommend the result as a valuable expeller of flatulent colics, and as a most efficacious *secretor of milk;* but only when both of the above are combined with funny-greek do we speak of the compound as a production at once truly astonishing and magic in its assuaging effects upon the irascible temper of bees. This last vegetable production was favorable known to the Greeks, and is the literal hay with which Philip of Macedonia lulled the voracious propensities of Buccephalos into quiescency; hence its perverted name *funny-greek.* The Romans, likewise, were acquainted with its unearthly strength and persuasive qualities.

Indeed, Horace was aware of its humorous properties, if we mistake not in quoting his "*foenum habit in cornu*," as inapplicable to the irritating epistles of satiric writers, and inasmuch as he might have been a zealous apiarian, we doubt not, lulled his bees to sleep with an infusion of it, before he sent them to bed.

Besides, its medicinal virtues have long sustained an undisputed sway in the composition of all kinds of salves, and ointments, and plasters, and cataplasms, and enemata; and, finally, the reason why I present to you my *charming* composition, in monthly sections, is the fear that the whole, in one bunch together, would have lulled you all to sleep before you had reached its middle.

It now remains only to be explained how the apparent contradictions of the charming professor's chemistry can be reconciled to the various antagonistic purposes set forth in his *Sweet Home and Private Circular*, to wit: The power of the Charm in *repelling* the attacking foes, in their attempts to inflict the viril sting, is attributable to the *dispelling* virtues of the Anise. Its power of *attracting* them from any unknown locality to any desired habitation is attributable to the cataplasmatic strength of funny-greek, an infinitesimal quantity of which is all-sufficient to draw a rusty ten-penny nail from a two-inch oak-plank.

The English language too, is destitute of strength as compared with the dynamic properties of Prof. Flander's 'Taint; and, therefore, I recommend both him and his thaumaturgical productions to the critical demands of our progressive age, promising, however, that, should the Professor send you one of his fifty cents bottles by mail, and your bees yet sting you in spite of it, the *inefficacity* of the application must (by no means) be attributed to the want of queen bees in its composition, for these, the Professor and I, as is well known to the public, can raise in quantities sufficient to satisfy any demand. Honesty, therefore, in every aspect of the case, and the plenitude of materials at all seasons of the year, should shut up the least suspicion of fraud, and the minutest idea of self-interest, into a very dark dungeon.

And now, as I have been at such an enormous expense to improve the Professor's original Bee Charm, and the law excludes me from the manufacture of the article, I have thought it wise not to advertise it as Bee Charm, but can implicitely offer it, at wholesale prices, to those who are fond of mush, and pap, and green cheese, as the *Greatest Milk Producer of the Age*, and thus I shall at the same time avoid infringing upon Professor Flander's *invaluable extracts*, and cap the climax of all things patented yet.

"Good friends we part, forgive one Patent rhyme,
I'll prose you all to sleep some other time."

Most charmingly yours,

Prof. APIASTER ALSATIUS, A. M., &c.,

And Corresponding Secretary of Coon Island, Golden Apiary, West End, 12½ miles from shore.

For the American Bee Journal and Gazette.

Poor Districts, or Poor Management.

Thomas Pierson, in the March number of the Journal, inquires "if his region of country is too old or has become overstocked with bees," since he finds that "of late bees do not do as well as formerly." The last two seasons in most parts of the West have been the poorest known for many years, and if, as he says, fruit blossoms, white clover, and buckwheat abounded, the reason for the failure of honey must be sought either in the state of the weather, or in the way in which the bees were managed.

In certain seasons, during peculiar states of the atmosphere, little honey is found in any blossoms. Last season there was much such weather here, and often when fields and trees abounded in bloom, bees were idle, and their hives losing instead of gaining in weight. As a rule, however, in any part of the country where bees having once prospered, have ceased to do well, the reason is that they are mismanaged in some respect. In this region the bee-pasturage is steadily improving, the loss of some few wild flowers being more than made up by the increase of white clover.

When I commenced bee-keeping here, years ago, neighbors told me that this country was "too much settled;" bees would do well no longer; the moth was so destructive! No wild bees were to be found as formerly, and the stocks of old bee-keepers had dwindled down till those who formerly had twenty or thirty colonies, now had but one or two, and some had lost all.

Notwithstanding this state of things, my bees have always prospered and given large average yields of surplus honey. In the very same seasons when my bees have done best, those of neighbors only two miles away died, because they did not gather winter supplies. I do not know an instance where bee-keeping has been undertaken intelligently and with the aid of movable comb-hives, and failed; but I do know of many who have begun in business where bees were "run out and the country too old," that are succeeding beyond their most sanguine hopes.

A letter just received from a friend in North-eastern Nebraska is so much to the point that I quote a part of it:

"When I came here, three years ago, bee-culture had dwindled down to almost nothing. Those who had colonies obtained neither swarms nor surplus honey. Two years ago I bought three stands from which I secured that season three colonies and three hundred and fifty pounds of box-honey. The next spring (one year ago) I took twenty-five colonies to keep on shares. They were in bad condition and so weak that I condensed ten of them into five, and thus commenced the season with twenty of his, and six of my own. From those on shares I secured eighteen swarms, and from my own six, all now in fine condition; and from all, parents and swarms, I obtained twenty-two hundred pounds of honey! From a few of the hives I had one hundred pounds each, and from

a few none. No one else in the neighborhood obtained *any surplus honey* that season, except a friend, whose apiary I superintended. You see my policy. I keep none but strong colonies, and all are strengthened early in the season. If I cannot strengthen a colony, I break it up. I have lost none from the moth, while my neighbors all have. Near the timber-lands pasturage here is most abundant. Early in the spring we have willows, plum groves, and raspberry thickets, and a little later lindens, while in the autumn months the golden rod, asters, and cuittle-weed abound."

The system of management so successful in this case, I am confident cannot fail to demonstrate in any region of country, that there is in all ordinary seasons honey enough, if the bees are in a condition to gather it. A hundred colonies, strong and in perfect order in the beginning of the season, will send out swarms and store a good quantity of surplus honey, where one weak in the spring might only gather strength to rear brood in time to consume the honey gathered later in the season.

Wherever complaints are heard of regions growing poor in honey resources, look first to the condition of the bees there.

ELLEN S. TUPPER.

BRIGHTON, IOWA.

For the American Bee Journal.

Handling Queen Bees.

It is recommended by some writers to take queen-bees by their wings, with the thumb and forefinger. That will do at times, but not if the hands are dirty, moist with sweat, or have been handling other hives or bees, especially if a bee has left any of the poison of its sting that the hands have come in contact with. Valuable queens should not be handled by some persons hands at all, while others are comparatively safe in handling at most times. The queens are apt to contract an odor that is foreign to the bees and their hive, by being handled, as also sometimes from the cages they are put in. The cage should be left in the hive long enough to lose all odor that is foreign to the hive in which it is placed.

Leave the queen on her own comb, or let her run off the comb and in the hive in which she is to be placed. Daubing the queen with honey will sometimes counteract the odor; but a better plan is to sprinkle the whole stock with highly scented honey, and in extreme cases with the use of smoke in addition. That of rotten wood is good.

Many a queen has been killed by her own bees, because the owner picked her off and put her back in her own hive; the bees no doubt regarding her as a usurper, as she had acquired an odor which they did not like.

JAMES M. MARVIN.

ST. CHARLES, ILLS.

IN Switzerland a whole village clubs together and hires a cold dry room, which they darken and put all their bees in, each man taking away his own again in the spring.

For the American Bee Journal and Gazette.

Mr. Editor: Since you invite communications from the patrons of your valuable Journal, I propose to give my views upon the perplexed question of the complete fertilization of the female bee. That the female bee is subject to three distinct developments, I think few at all conversant with the history of the bee are inclined to question—to wit: *workers, fertile workers, and queens.*

The term itself—"fertile worker"—implies two distinct and separate fertilizations, in order to develope a perfect mother-bee. The question then very properly arises, at what stage of development do these fertilizations transpire? My answer is, the first transpires at the time the larva state is perfected. The next question is, how is it brought about? I reply it is produced by the workers who sacrifice the larvæ to obtain the fertilizing principle known as royal jelly.

I hold that the fertilizing fluid imparted from the drone to the queen, and from the queen to the egg, is not exhausted of its fertilizing powers until after the larva reaches a certain stage of development, possibly not till the change to a chrysalis.

Hence it seems rational to conclude that this latent principle of life, previous to being called into action by developing nature, should be as fully possessed of its fertilizing powers as when first imparted to the egg; and, consequently, when duly supplied to the fully-developed larva, as perfectly produces the primary fertilization, so to speak, or drone-producing powers, as does the actual copulation of perfect insects the secondary or female-producing powers.

If this view of the case be correct, it follows that the two fertilizations are wrought upon two distinct nervous organizations. Consequently, why should it seem at all strange that the queen, when about to deposit an egg, should know from sensation which of the sexes she is about to yield? That she does know this, I think that all who believe in the two kinds of eggs will scarcely doubt. But that she has the power to produce either drone or worker-eggs at will, I am not fully prepared to admit, any more than I am that she has the power to lay at will, or to suspend laying at will.

It is self-evident that in case the primary fertilization originated with the bees which nurse the larvæ, if it were brought about by any principle inherent within themselves, independent of the drone which fertilized the mother, then the mature queen, if an *Italian* raised by a nucleus of black bees would be inherently impure—that is, the same physiological phenomenon would be witnessed, as in all other cases of mixed blood—a hybrid progeny, testifying to its parentage.

The drones of such a queen, in this view of the case, would as assuredly show a cross between the black and the Italian, as would the worker progeny in case the mature queen copulated with a black drone.

G. A. WRIGHT.

OSAGE, IOWA.

For the American Bee Journal and Gazette.

Artificial Honey-Comb.

Several writers in the Journal have expressed their views of the great value of empty honey-comb. I fully concur with them, and hope its importance will be still further urged upon the attention of bee-keepers. So valuable has it been considered by European bee-keepers, that attempts have been made to manufacture artificial comb for the use of new swarms. Such attempts, however, so far as I have been informed, have resulted in producing merely a thin sheet of wax with the impression of the bottom of cells fixed upon each side of it. The production of perfect sheets of comb with cells of full size, complete in every respect, and ready for the reception of eggs and brood, seems never to have been attempted, or, at any rate, not to have been successful. Still, I believe it can be made, and even more perfectly than the bees themselves make it; and, what would be of great importance, the amount of drone-comb in a hive could be regulated exactly in accordance with the will of the bee-keeper—having much, a little, or none at all, as the whole body of the hive *could* be completely filled with worker-comb. I say it could be made more perfectly than the bees make it, for all the cells could be made of the same size, whereas, if you measure across the mouth of a dozen or more worker-cells in one part of any piece of comb, and the same number from another part of the same comb, you will find some difference. I think I have devised a plan by which perfect comb can be made, and made cheaply and strong enough to bear transportation by express. The machinery necessary for making it would be rather expensive, but, once made, comb could be produced rapidly. But the question arises, would there be any demand for it? I simply know that I want it, and would be glad to pay any one who would produce it for me. Whether others want it is what I wish to learn through this Journal, and what it would be worth to a bee-keeper, per sheet, of the size of a Langstroth frame—say eight inches by seventeen. One bee-keeper, in reply to the question of value, said it would be worth a dollar a sheet, but I think that too much. Still, if you will refer to an article, page 179 *Bee Journal*, by Mr. L. L. Fairchild, you will see that a swarm placed in a hive filled with empty comb, produced two frames of surplus honey and thirty-five pounds in boxes, fully fifty pounds in all—worth, at thirty cents per pound, $15, while a swarm two or three days later, placed in an empty hive, "scarcely laid in stores sufficient for their winter food." In this case, if ten frames of comb were used, each comb was worth $1.50.

R. Bickford.

Seneca Falls, N. Y., March 28, 1867.

[Several years ago we devised and patented an apparatus for making artificial honey-comb foundations having rudimental cells, with ease and mathematical accuracy. We found, however, that wax, or a composition of which wax is the chief ingredient, is not adapted for transportation, unless the foundations be packed in a manner both troublesome and costly. Very beautiful and light foundations, sufficiently firm to bear transportation while new, can be made of gutta percha; but they soon become so friable even when not used, that that material cannot be employed. We have also experimented with other materials, though without satisfactory results so far. What is wanted is some substance combining cheapness, lightness, strength, and durability. If such be found it will still remain to be ascertained whether there will be any advantage in using artificial foundations, if honey-combs, as built and filled by the bees, can be rapidly emptied by the centrifugal apparatus lately invented and about to be tested.]

For the American Bee Journal and Gazette.

Early Superseding of a Queen.

Visiting a friend's apiary in Danville, Ky., last month, (Feb.,) I noticed on the 27th, on the alighting-board of a last year's hybrid Italian swarm, a dead drone, apparently just emerged from a cell. Thinking it rather early for drones even in that latitude, (37½°,) I opened the hive, and was surprised to find a *queen-cell*, with the end opened, and the lid still hanging to it, as if a queen had just emerged. Further examination revealed another queen-cell opened on its side, and on the other side of the frame another cell still closed, and a slightly, well-developed young queen near it.

Further examination was not so critical as I *now* wish it had been, but no other drones, or drone-brood, or worker-brood were seen, nor was the old queen found. The sealed queen-cell was cut out and given to a queenless colony, and this colony strengthened with a well-filled frame of sealed brood from a strong colony. The bees from all the colonies in the apiary were carrying in pollen freely on the 26th and 27th of February. I have not yet learned whether these young queens became fertile, nor can I understand why a fertile queen, as this one *must* have been, was superseded so early in the season.

H. Bickford.

Seneca Falls, N. Y., March 27, 1867.

If you wish to catch any of the bees, make a bold sweep at them with your hand, as though there were no such thing as a sting in the world. The bee will be so astonished that he will not sting at first. Then hold him in your closed hand, without pressing him, and he will not sting. I have so caught three or four at a time. If you want to do anything with a single bee, catch him "as if you loved him" between your finger and thumb, where the tail joins on to the body, and thus he cannot sting you.

[From the Bienenzeitung]

Does the Treatment of the Larva Effect the Color of the Queen?

A letter which I recently received contains the following passage :

"Accept my most cordial thanks for the very beautiful queen you sent. Her progeny also is particularly beautiful; each individual is in itself a pearl. But the forty young queens reared from her eggs do not appear to me to be all equally yellow. I have had queens raised from her brood by both common and hybrid stocks, and it would seem to me that those bred by the latter are more yellow. Still, I may be mistaken. I will continue my observations next year."

If I understand the foregoing correctly, the writer is of opinion that the diverging grade of the brooding colony has exerted a peculiar and advantageous influence on the beauty of the queens produced. I have heard from other quarters also the notion that queens reared in strong and populous stocks are always handsomer and more perfect than others. Both opinions are based on substantially the same view—namely, that the construction of the royal cell, the preparation of the jelly or food, the nurture of the larva, and the general treatment, so affect the inchoate and maturing queen as to produce a change in her color and appearance; and that diversity of race especially, and the vigor and populousness of the colony thus engaged, perceptibly enhance and improve this change.

My own experience is directly opposed to this view. In my practice I have been unable to detect any difference, in this respect, between strong colonies and weak ones, or between Italian, hybrid, or common stocks. True, in weak colonies, the royal cells or rather larva are more apt to fall of development, and a smaller number are usual'y started; but I have never perceived that the young queens were improved in appearance by the nutritive power of strong colonies, though composed of bees of a different race. In my judgment the color and race-peculiarities in general, are predetermined in the egg, and undergo no change or modification from either nutriment or nursing. If the writer found the young Italian queens reared in common or hybrid colonies, either yellower or handsomer than others, the difference, if real, is certainly merely casual.

But since all persons are liable to err, and I do not deem myself an exception, I trust the writer will prosecute his investigations. And if other bee-keepers have made observations differing from mine, I would request that these be communicated. For if the writer's views should prove to be correct, it is important that the fact be made known, so as to render it available in rearing Italian queens, in order to improve the race. G. DATHE.

EYSTRUP.

WHEN one who is stung by a bee or by fate does not keep still, the sting tears off and is left behind.—*Jean Paul.*

For the American Bee Journal.

A String of Questions Answered.

Mr. Editor: As I have used the Langstroth hive for several years, I will with pleasure answer the "string of questions" for "Querist."

In answer to the first two questions: What is the best width for top-pieces of comb-frames? Should they be any wider than the thickness of brood-combs? I will say that the top-piece should be 1⅛ inches wide for the following reasons: If the top-piece is only ⅞ of an inch wide, or no wider than the brood-comb, the bees will build their comb above and between the frames, and fasten it to the honey-board so firmly that the latter cannot be removed without disturbing the bees very much; and before it is put back again the comb and honey must be scraped off, to avoid killing the bees. Now, if the top-pieces are made 1⅛ inch wide, and allowing ten frames to a hive which is 14½ inches wide in the inside, and only ¼ of an inch is allowed between the honey-board and the top of the frames, the bees will not put much comb between, and the honey-board can be removed at any time without disturbing the bees but very little. Where the tops of the frames are only ⅞ of an inch wide, the bees invariably fill the holes for the surplus honey-boxes nearly full of comb, leaving only a very small passage to pass up through. But where the top-pieces are 1⅛ inch wide, the holes are kept clean.

I have not seen the comb-guides used for a number of years. Bee-keepers found it too much trouble to get straight combs that way. A much better way to secure straight combs is to use old brood-comb cut into strips only about three or four cells thick, and stuck in the frames with a mixture of honey and rosin. If put on properly it will not come off. Brood-comb can be straightened by warming it a little and pressing it between two pieces of boards until it is cold enough to remain as the boards leave it.

Instead of a triangular comb-guide, a flat one should be used on which to stick guide-comb. After the guide-comb is fastened to the frames, turn off the edges till it will be as sharp as a triangular guide. This is a sure way to secure straight combs. I never knew a case where the guide-comb was put on properly, that the bees did not build their combs throughout exactly within the frames.

Those using Langstroth's hives in this part of New England, use a honey-board three-eighths of an inch thick, with holes for passages to the surplus honey-boxes 1¾ inch in diameter. Fourteen boxes are placed on a hive at the time, which hold, when full, three pounds each. This kind or size sells best in the Boston market. HENRY ALLEY.

WENHAM, MASS.

I ALWAYS feed my bees for two or three days after they have swarmed, be the weather foul or fair. It saves time, and helps them to get their combs sooner made. Nothing you give your bees is thrown away. All is repaid with interest.

[From the Bienenzeitung.]

Mixed Oviposition.

The abnormal condition of some queens is such that, from the time they become fertile, they continually lay worker and drone eggs intermingled. Seldom does a year pass that I do not find among the great multitude of my queens one or more thus affected, and producing from 25 to 75 per cent. of drone brood among their worker brood. When the drones thus produced are handsome, I gladly use such queens in the spring to secure an early supply of Italian drones. Thus I preserved one last fall, which, during the whole of the previous summer, had laid about three-fourths drone-eggs and one-fourth worker-eggs. Both workers and drones are exceedingly fine specimens of Italian coloring and marking; and this induced me to retain her.

If colonies having such queens are left to themselves, they will of course rapidly decrease in population, destroy drone-brood occasionally, start royal cells, and sometimes assail and expel the queen. In this way, probably such and similar abnormal conditions are removed, without having been observed or investigated. If it be desirable to preserve such a colony, worker-brood must be introduced from time to time, and feeding resorted to when pasturage is scarce, whereby the bees are induced to regard their queen as not defective, and the constantly accruing drone-brood as appropriate to the season.

But what is the cause of this phenomenon? Does it result from some organic defect? Does it arise from imperfect fertilization, or is it the effect of some injury sustained? It would be gratifying to have the mystery elucidated.

DATHE.

EYSTRUP.

IN time the combs in the hive get old and black, because bees store up more bee-bread when it is plentiful than they can use; and they never entirely clean out the cells in which the young bees are bred, but leave a sort of cloak which the larvæ spin around themselves before undergoing their change, and this remains attached to the sides of the cell. In very old hives these two things help to make them very heavy, so that in weighing them an allowance of several pounds should always be made on this account, if you want to know whether they have honey enough for the winter. In this way, too, after many years, the cells become too small for breeding, and the stock dwindles away and dies a natural death, if not properly treated.

BEES in their excursions furnish themselves with three different materials: the nectar of flowers, from which they elaborate honey and wax; the pollen or fertilizing dust of anthers, of which they make what is called bee-bread, serving as food both for old and young; and the resinous substance, called propolis by the ancients, with which they close up cracks and crannies in the interior of their hive.

Timely Care.

Most people know that when they are hungry they must have something to eat. But they judge otherwise of their poor bees. For if one of the strong winter stocks, *under the old cottage plan*, is left to itself in a rich honey country, it will, in the course of May, June, July, and sometimes in August, throw off its superabundant population to seek storeroom in some new home away from the parent hive. Hence it is plain that the *swarm* in June will have more time to establish itself than the *cast* thrown off in July, and the July cast will have more than that of August. Yet so regardless of their interest are many people in this matter, that, sooner than give the latest weak stocks some little food to aid them, they will allow them all to starve with hunger. Bees can bear cold, however intense, if they are kept dry and have plenty of food.—BAGSTER.

For the American Bee Journal and Gazette.

Artificial Comb Foundations.

I notice an inquiry in regard to artificial comb foundations in the April *Journal*, which, with your permission, I will answer.

In February or March, 1866, I called upon Mr. Henry Steele, of Jersey City, as I had previously learned that he manufactured artificial comb foundations. At that time he told me, if I remember correctly, that he procured the apparatus for manufacturing it in London, and that it came originally from Switzerland.

He showed me some foundations manufactured in Switzerland, and kindly presented me with a box of the article to experiment with.

I have not heard from him since then, and do not know whether he manufactures it now or not.

Last summer I used the comb, and found that the bees work on it readily and build out the cells. It can only be used to start a small part of the combs, and my impression is that it will not come into general use for this purpose. We want something strong enough to furnish the foundations for an entire comb without breaking; and I think we ought to have it, and that we shall have it.

Wax alone is so brittle that it can be used only in small sheets; but I have a plan by which I think this difficulty may be overcome.

It may not succeed, but I would like to present it to the readers of the Journal for a starting point, as I believe this to be the next great reform in apiculture.

I hope in a few years to see hives with the foundation combs complete, so that the bees will only have to build out the cells and use them. I propose to use some fabric which is thin, cheap, and free from nap. Saturate this thoroughly with melted max, and when cool enough, impress the foundations. Perhaps light cotton-cloth will do. To fasten this in place, make the comb-frames in two parts, each part half the ordinary width of the frame. Lay one-half on a bench, then lay on a piece of foundation, and then lay on the other half, and

rivet them together. The frame is then ready for use.

If this or any similar device succeeds, we shall be benefitted in the following respects:

1st. Each comb will be as straight as a board, and may be transposed, and fit just as well in another place.

2d. We shall know what kind of cells are going to be built before the bees are put into the hive. This will give perfect control over the rearing of drones, unless they are reared in worker-cells.

3d. The honey can be scraped off, and the foundations returned for the bees to use again.

4th. The combs cannot break down or fall out while handling the frames

These advantages and others which might be named, are to be found in no hive that I have yet heard of, and I ask, are they not worth laboring for? I admit that this is theory, and that theory does not always work well in practice; but theory always does and always must precede practice.

J. L. HUBBARD.

WALPOLE, N. H.

WHEN swarming, bees are always in good temper, unless rudely interfered with. Every person accustomed to bees knows how safely he may go into the midst of a newly-issued swarm, not one of which will molest him unless he accidentally crush or injure it during the act of hiving. They are so intent on the great object of their emigration, the acquisition of a new abode, and so anxious about the safety of the queen, that what on ordinary occasions would draw forth their vengeful sting, now passes utterly unheeded by them; and a person may, in the event of a swarm clustering in a spot inconvenient for hiving, lift them in handfuls, like so much grain, without in the least suffering for his boldness.

FEEDING bees costs something undoubtedly, but every pound of honey given at the right time, as in a cold late spring, will be richly repaid by them when the weather changes. Another time when feeding is required is when the weather comes bad within two days after a swarm is put into a hive. The bees swarm with their honey-bags full; but this store may be exhausted, if they cannot fly to gather any, while building combs in their new home.

IF more cottages kept bees, much of the honey which is now wasted would be gathered. The flowers, too, are all the better for the honey being taken. I have heard a farmer say that his orchard bore double the crop it had done before he kept bees. And what is the reason honey is found in flowers? Its only use, or rather its chief use, is to draw bees and honey-eating flies to the flowers. They carry the pollen or fertilizing dust on their hair and legs from flower to flower, which makes them bear fruit. If there were no bees or flies, there would be few apples.

[From the Bienenzeitung]

Italianizing.

The easiest mode of establishing an apiary of Italian bees is undoubtedly by the introduction of a queen. Yet, though this may readily be done, and almost every bee-keeper now knows where genuine Italian queens can be obtained, there are still many who hesitate to procure them, fearing that the attempt to introduce them may be unsuccessful; and they are unwilling to incur the expense and mortification of repeated trials. But since a single queen can furnish adequate supplies for the largest apiary, and the resulting advantages are great and gratifying, over-anxiousness about the issue should not deter any one who is at all accustomed to operate among bees, from engaging in the work. A careful compliance with the instructions which accompany the purchased queen, will usually insure her safety, and when once domiciliated in her new home, she supplies the means of quickly supplanting the common stock all round—though the rapidity and ease with which this can be accomplished depends much on the time at which the work is begun. The swarming season is certainly the most favorable period; and as I have experimented considerably in that line, I will give a detailed account of the process employed. Whoever will use his prime and afterswarms in the same manner, can scarcely fail of success.

Hive the swarm in the usual manner; but, as the bees are passing in, search for and secure the queen. Confine her in a cage, and insert this in the hive among the bees. They will immediately commence to build comb, regardless of the confinement of the queen, being content with the consciousness of her presence. Leave them thus two or three days, then remove the queen and insert a piece of worker-comb containing eggs and larvæ from your Italian queen.

The bees, especially if it was a prime swarm, will soon become restless on discovering that their queen is gone, and immediately begin to build royal cells. This usually takes place already during the first night after the removal of the queen; and when once queen-cells are started, success is almost certain. While this is going on in the prime swarm, an afterswarm will probably issue from the parent stock. This is to be treated precisely like the former, excepting that instead of inserting brood-comb after the removal of the queen, I insert a sealed royal cell taken from the prime swarm. Thus the afterswarm is likewise Italianized, for it willingly accepts the royal cell, and thus is furnished with a young queen in the course of three or four days. A sealed royal cell must never be offered to a deprived prime swarm, because in nine cases out of ten it will be promptly destroyed by the bees. As your apiary will at this period probably contain comparatively few Italian drones, the chances are that the young queens now reared will be impurely fertilized, but provision is nevertheless thus made for an ample future supply of pure drones, since, in accordance with

the accepted Dzierzon theory, the drones produced by impurely fertilized Italian queens will still themselves be pure Italian.

A further advantage of the process here proposed consists in this, that we thereby secure colonies sure to gather sufficient stores for the winter—which is a very important consideration. The reason of this is found in the interruption of brooding, at the precise time when pasturage is abundant. Swarms which retain their queen, have their time and attention largely occupied with attendance on the brood, and can devote comparatively little of it to the collection of stores. Dzierzon and others have therefore long since recommended the temporary confinement of the queens in the months of May or June.

For the purpose here suggested, undoubtedly only strong populous stocks can be employed. The swarming season is usually contemporaneous with that of the best pasturage, and the bees must therefore be in a condition to avail themselves to the utmost of the offered supplies. It is utterly in vain to operate in this manner with weak stocks; it would certainly end only in "vexation of spirit." But if several weak colonies are previously united, the operation may be rendered successful.

A conviction of the superiority of the Italian bees led me to devise and adopt this process Formerly I was among those who regarded them as a mere fancy article, like Shanghai chickens, tumbler pigeons, and lop-eared rabbits, without having the least conception of their intrinsic value, or the slightest desire to possess them. But observation and subsequent experience have long since changed my opinion and satisfied me that they are incomparably better than the common kind. They are at work earlier in the morning and later in the evening, and visit many flowers and plants on which common bees are never seen. They have a keener scent, too, for honey or nectar, and larger honey-bags; and having stronger if not longer wings, their range of flight is comparatively more more extensive, and their labor consequently more productive.

NEIDHOLT.

BORAGE is a useful plant for bees. It continues in blossom till the frost destroys the stem. Its seeds drop, and will continue to come up in the same place for years. It is an annual. A few seeds may be sown in some by-place, where it will continue without further trouble for years, only requiring to be kept free from weeds. It has been called the King of bee-flowers. In cold and even showery weather, the bees feed on it in preference to many other plants. Its flowers are pendulous; thus the nectar they contain is not injured or washed out by rain, and shelter is also afforded to the bees while in search of the sweets it secretes.

WARM winters make sad havoc among poor stocks of bees, and rich ones have sometimes nearly empty combs with which to begin the new year.

For the American Bee Journal and Gazette.

A Query Answered.

Editor Bee Journal and Gazette:

In your March number several questions are asked, among which is the following: "Can a stock of bees troubled with dysentery void their excrements in a wire-basket attached to the hive, and the hive placed in a warm room; and will the bees return to the hive?" In this article I will give my own experience in a case somewhat related to this, and which will partially answer the question. On the 7th day of February, 1866, I examined a colony of bees belonging to a neighbor, which were situated in a common hive. I assured him they were very near out of honey and must shortly perish, if not removed to a warm room and fed liberally. This he requested me to do, as he stated he was not at all versed in bee-management, and consequently could not venture to do it himself. I now took them into a room at my own residence, and immediately transferred them to a Langstroth hive. On opening their hive, I found them, as predicted, nearly out of honey, but in possession of some maturing brood, which I carefully transferred, placing it in the centre of the combs, and arranging the remaining small amount of honey in its immediate neighborhood, on either side of the brood, so as to make it easy of access to the bees. This having been accomplished, I turned in the bees. I next put wire-cloth over the front of the portico, to prevent the bees from flying out into the room; and before permitting the room to become cold, I gave them some syrup made of common sugar. This I poured into clean combs, placing it directly on top of the frames. Then covering them over with a heavy comfortable folded three or four thicknesses, and so arranged as not to prevent the bees from passing to and from their feed. Putting on the cap, I now left them for the night.

This feeding process I repeated each evening, just at nightfall, for two weeks; and on each day, after being thus fed, they would come out into the portico of the hive, after the room became warm, seeming very anxious to get through the wire-cloth in their front. This excitement was kept up, to a greater or less extent, until the room again became unpleasantly cold, when they would again retire to the interior of the hive and become quiet.

At the end of two weeks, I found, on examination, they still had nearly or quite all the honey which I had transferred with them. They had also constructed a piece of comb some seven inches quite, which at this time contained maturing brood. In the meantime the brood taken from their old hive had hatched, and they were now giving special attention to the new comb and brood.

During those two weeks I fed them some four pounds of sugar made into a syrup, a considerable part of which they had stored away for future use. I now placed them on their summer stand; and during the remainder of the spring, on warm days, I fed them some five or six pounds more of sugar in the form of syrup.

Their old comb contained some pollen, but not a large amount; much less, I think, than is common with good colonies in the month of February. I gave them no flour or meal.

This colony was not diseased when transferred, a scarcity of stores being the only obstacle in their way. When they were clustered quietly in their hive at night, I could find perhaps the usual quantity of excrement discharged on the wire-cloth and walls of their portico. I feel very confident that, had they been troubled with dysentery, they would have done just as they did in health with regard to discharging their excrement, and would have been restored to perfect health, if similarly treated and taken in hand before their numbers were too much reduced to admit of their keeping up the requisite amount of heat to sustain animal life during the late and consequently cold hours of the night, when the fire was allowed to burn down.

This, Mr. Editor, I think in part answers the question above quoted, and perhaps may be of some value to new beginners, if made known to them, enabling them to save a starving colony, and convert it into a valuable one The colony referred to is now one of my best stocks. At any rate, I was willing to introduce to them last fall, for safe-keeping during the winter, a splendid Italian queen just obtained from Mr. Langstroth.

This morning they are in good condition, and I could sell them for twenty dollars. I am quite sure it did not cost me one-fifth of that sum to save them through the winter. But when we take from the above the price of the Italian queen, it leaves still a good black colony, in a movable comb-hive, worth twice what it cost me to keep them over the winter. I am well satisfied that I can save nine colonies out of every ten, by managing them as I did the one here spoken of, allowing their condition to be perilous, either from dysentery or from want of sufficient stores. They will soon begin to do well, if put into a dry clean hive with their comb and brood, and fed on healthy syrup.

I see that sorghum or sorgho, as he calls it, is mentioned by a correspondent of the *Bee Journal and Gazette* as a bee-feed. I find him also starting with a colony of bees badly diseased, doing, as he declares, his best to clean their combs and restore them. I feel very confident that he is likely to have just such trouble as long as he feeds this putrid and worthless syrup, which I am slow to believe fit either for man or beast, unless it be differently manufactured from what it is at present. If this contains anything of interest, Mr. Editor, you are at liberty to publish it.

GODFREY BOHRER.

ALEXANDRIA, IND., March 18, 1867.

P. S.—If question No. 3 is not answered in the next number of the *Journal*, I shall probably try to answer it. G. B.

MAN takes *his* suffering for that of *humanity*, as the bees take the droppings of their bee-stand, when the sun already shines out again for rain, and stay in-doors.—*Jean Paul.*

For the American Bee Journal and Gazette.

Escape of Queens.

Repeated instances have been reported where valuable Italian queens have made their escape when the transport-hive for the purpose of transferring them to their intended new quarters was opened. As such an occurrence must be annoying and mortifying to the operator, it may be well to submit a few suggestions by which the loss may be guarded against.

Where the queen is in a small box, and accompanied by a small number of workers only, it should be opened in a room with closed windows, the queen seized and confined in a cage. Here, if she should chance to slip through the operator's fingers, she would merely fly to the window, and could there be recovered and secured.

But where a larger number of bees—a small swarm, for instance—accompanies the queen, and it is inconvenient to make the transfer indoors, it may be safely effected in the open air, if the fly-hole be opened, and the bees allowed to issue. As soon as they become settled, the top can be removed, and the entire mass of bees transferred to their new home, without danger that the queen will desert. They may be either shaken from the combs, or brushed out with a feather if adhering to the sides or top of the box. Still, the operation should not be undertaken in the near neighborhood of other hives, at a time when the bees are flying, as troublesome and damaging interference might thereby be induced.

A remote or more isolated spot somewhere in the garden should be chosen; and if the queen then take wing and fly away, she will be sure to return and rejoin her colony if it be left in that position till the bees manifest uneasiness at her absence, unless meantime she shall be hastily "gobbled up" by some insect-loving bird that chances to espy her.

Wherever at all practicable, therefore, I advise operating in a room with closed windows, whatever be the size of the transport-hive or the number of the accompanying bees. When certain that the queen has been secured or transferred, the window should be opened, and the new hive placed before it. The old stragglers will quickly join the colony; and the young bees, not yet well able to fly, should be collected and placed at the entrance, where they will be kindly received.

Usually Italian bees are sent to the purchaser in miniature box-hives, with one or two small movable combs; and there can consequently be no difficulty in securing the queen, if the precaution be taken to operate in doors with closed windows. Inexperienced persons should never neglect to do so, and it is only for such as they that these admonitions are intended. There are other and subsequent risks which those must unavoidably encounter who desire to Italianize their apiaries. But the chief matter of all is, to be sure that they have an Italian queen securely housed to begin with.

O. P.

APRIL, 1867.

THE AMERICAN BEE JOURNAL AND GAZETTE.

WASHINGTON, MAY, 1867.

☞ THE AMERICAN BEE JOURNAL AND GAZETTE is now published monthly, in the City of Washington, (D. C.,) at $2 per annum. All communications should be addressed to the Editor, at that place.

WE HAVE given up to correspondents so much of our space this month that we have little room left for even brief editorial matter, and several communications are still unavoidably postponed. Articles intended for the *Journal* should be in our hands prior to the 15th of the month in which they are sent.

Communications, it must be understood, express merely the views and opinions of their writers; and we must not be regarded as endorsing them because the *Journal* is made the medium through which they are presented; nor do we deem it necessary that we should always express dissent where our opinion differs. We prefer that, within proper bounds, all should have a fair hearing, conceiving that, however various and contradictory the statements at times seem, the truth will ultimately be evolved by discussion. The following extract from a letter recently received, regards this matter in its proper light:

"To a person like me, who is almost a novice in apiculture, the many conflicting theories of your correspondents and those from whose works you copy, are hard fully to comprehend, and still harder to reconcile with the natural economy of the bee; but, I suppose, to live and learn can do no harm."

BEES should be fed in a dry summer when the flowers have no honey. There are occasionally intervals of several weeks when such is the case. The bees will then cast the larvæ and immature young out of the cells. This, though seemingly cruel, is in reality a kindness, for when thus thrown out they speedily die, whilst, if kept in the hive, they would linger a long time, dying of starvation. If food be offered to the colony, when it begins to cast out the larva, they will at once cease to do so, and the population of the hive will continue to grow.

LEARN from the bee to work hard and waste nothing, and remember that nothing worth doing can be done without a little trouble.

For the American Bee Journal.

The Experience of a Novice in Bee-keeping.

No. 3.

After I found that my bees had got their queen, and no mistake, my anxiety for them was a little relieved, and I had no doubt that, under my *careful management*, they would yet come out all right. To make all sure, I fed them the honey I had *strained them out of*, thinking it would be better for them to take it back after they had got strong again.

Of course the frames had to be taken out occasionally, to see that they were all right, and to get an occasional glimpse of that mysterious queen once more.

Mr. Langstroth's description of an observatory hive had quite captivated my fancy, and as soon as I could get one made to my satisfaction, my small colony were compelled to spare their best comb of brood for that purpose, and anxiously we watched for a queen-cell. It was several days before that curiosity appeared, but it did at last, and it was hard to say who paid the most attention to it, the bees or ourselves. But they had the advantage over us, as they could poke their heads into it incessantly, whilst we were forbidden the coveted privilege of seeing what were the wonderful contents of that cradle of royalty. Here we were doomed to a little disappointment, as my wife one day informed me that they had left the queen-cell, and that it contained—*just nothing at all!* As they had been at work at it only a few days, I was compelled to go to Langstroth again for a solution of the difficulty. Sure enough, he does mention that bees, like other folks, sometimes make mistakes, but *unlike* other folks, they are always willing to correct them, if an opportunity is offered in the shape of new brood-comb. This we furnished them with, and they went to work anew and made a better royal cell, and all seemed right.

I will here mention an occurrence which I should like to know if it is common. In capping one of the worker cells, which was near the glass, they had made the glass form a part of the capping, so that we could see plainly the operation of the larva even after it had been sealed up. I was quite elated at this, as I could thus have an opportunity of seeing the whole process. But from some unknown cause, after I had watched its movements about two days, I think, the cell was changed so as to obstruct the view. In that time the head had nearly approached the glass, and seemed to be moving slowly almost incessantly.

Our queen did hatch, although it was so late in the season that she probably never left the hive. She was hunted up and admired by all our friends; her majestic gait, and the homage paid her by the workers, were fully observed, until I got an idea that an Italian queen, in her stead, would be just about the desideratum.

From the *American Agriculturist* I learned that our friend, as I thought he must be after reading his work, L. L. Langstroth, still lived,

and had Italian queens for sale; but on writing him he informed me that my project would be quite expensive and quite sure to fail, but that he could furnish me a queen to be put into a full swarm as well late in the season as at any other time, or perhaps better.

Well, as I had got the Italian queen fever, I was bound to have one; $20 was a big price to pay for a single bee, as my friends expressed it, but I thought that in bees as in other things the best was generally the cheapest and surest; and so away goes the $20 greenback with an anxiety and impatience for the result not equaled by any other transaction where several hundred were at stake.

The days at length passed as days always do, I believe, and a reply came, and, shortly after, the tiny movable frame-hive, and the beautiful little strangers as kind and gentle as kittens.

At first, great preparation were made in a room on purpose to open the little hive before a window, as we supposed of course they would fly, but not a bee moved off from the combs; they were taken out and looked at, handled, carressed, and even *breathed* upon, without stirring a wing, and the retiring modest little queen, with her beautiful tapering form, was already worth the $20 just to look at.

Great was the fear that that important ceremony of introduction to the black natives might miscarry in some way, and over and over again were the instructions read before commencing.

But my persecuted swarm probably thought there was to be no end to the innovations on their home, or rather mine, and so concluded to submit quietly to all that was imposed on them, and rebelling little at being deprived of their queen, which I came very near never finding.

I removed the combs nervously, thinking that it was like looking for a needle in a hay-stack for all the world, when I accidentally came upon her, but had not yet faith enough in the books to believe the romantic idea that she had a sting, but would use it only in case of an invasion by royalty itself, and so was afraid to take her in my fingers, as I should do now, but allowed her to get out of sight while I was trying to poke her off with a stick. A friend offered to help me hunt her if I would get him a bird-cage to wear like my own, (referring to my bee-hat which I then always wore when about bees,) but I thought I could find her myself, as I knew where she was—that is, I knew what comb she was on, or supposed I did; but after a long search she was found on the floor, hid in a crack, a trick which I believe Italian queens are never guilty of. She was secured and kept for a royal combat with my unfertile queen in the observatory hive, which, by the way, took place according to programme, ending in the downfall and death of the old queen, and victory of the young one. I intended to preserve the remains, but the bees had disposed of her by taking her out and carrying her away up in the air before I could get to them.

After six hours the Italian queen was placed in a cage on the frames, and, at the proper time, as the cage was opened, my heart stood still, and so did the bees, and as she silently disappeared between the combs, I drew a long breath of relief, for I knew that my *highly esteemed* $20 queen was safe.

For the American Bee Journal and Gazette.

Bee-keeping Without a System

is just as injudicious as farming or mechanical work without a proper system. More depends upon attention and careful management, and that at the right time, than upon good or bad luck.

Now, Mr. Editor, I have read much in the *Journal* and other periodicals about the profits of bee-culture. I would like to ask bee-keepers, through your paper, if it is profitable to let bees starve for want of a little attention and a few pounds of sugar properly prepared. If so, the bee-keepers in the northwestern part of Massachusetts have realized a very large profit the past winter. Nine-tenths of all the bees in Franklin county have perished for want of food and proper care. My experience extends thirty-four years in bee-culture. The past season was the poorest by more than three-fourths of any season during that time. A few, by proper feeding and careful management, have saved their bees.

I have frequently been asked the question what proportion of my swarms of bees I lose in wintering. In reply, I ask them, being farmers or dairymen, what proportion of their cows they expect to lose in wintering. I expect to lose about as many colonies of bees as they do cows. I went into the past winter with seventy colonies, which is considered a very large stock for this section of the country. They all came through in good condition, except four that proved queenless; and they were turned to some advantage by adding to others that were partially depopulated.

WM. W. CARY.

COLERAIN, MASS.

A SWARM from a swarm is called a virgin swarm. If in the following year this maiden swarm throw off a swarm later than the middle of June, it is a good practice to return it to the maiden stock, or the chances are that both will be lost.

ALL stocks in cottage-hives, whether of wood or straw, that have missed swarming for two successive years, and more particularly if they have lain out and shown other symptoms of swarming, are very hazardous to keep as stocks.

STOCKS weak as to number die; and stocks light of honey die. Even if they survive the winter, in the early spring months there is but little chance of their doing well. But constantly giving food, and keeping them warm, are means that may save such stocks.

[From the London "Field."]

A Swarm Settling on the Face.

In June, 1854, Mr. James Simmonds, a farmer, residing at Brooklands Farm, Weybridge, was dressing, in order to attend a rent audit at Woburn House. Before putting on his coat, he perceived from his window an unusually large swarm of bees, filling the air with their cloud and noise. It was in fact, as he afterwards ascertained, two swarms that had come out of two distinct hives, and had united in the air. He ran out in his shirt-sleeves, and without his hat, to see where they would alight. The bees, after making some circles in the air, led him off to the bank of the river Wey. Thinking that they might cross the river, and perhaps escape, he adopted a plan not uncommon with bee-masters—namely, that of throwing dust into the air among the bees. This often makes them settle quickly. They did settle quickly, and this more so than he expected, for in a short time the whole of one of the largest swarms he had ever seen settled upon his head, face, and breast. They hung down in front like a great beard to the bottom of his waistcoat. Had he not been well accustomed to bees and perfectly collected, his situation would have been a very dangerous one; for, had he at all irritated this mass of armed insects, he would no doubt have received a sufficient number of stings to have placed his life in peril. He was obliged to close his eyes slowly, and keep his mouth shut. Then, in order to prevent their entering his nostrils, which they endeavored to do, he slowly thrust one hand through the mass, and with two fingers managed to keep pushing and drawing them away from his nostrils as they tried to enter, he breathing all the while as softly as possible. This was necessary, as bees are generally irritated by being breathed upon. He then began to consider what course he should take. He was some distance from his house, and no one near him or within call. His first thought was to walk slowly into the river Wey, and gently sink his head under the water, and thus throw off the swarm. But a moment's consideration dissuaded him from that attempted remedy. He could not have disengaged them all, for many were between his neckclotn and skin, and still more were crawling down his back. He found that if he walked he could not help disturbing the hanging mass, and that every little agitation, however slight, caused a hum and a hiss from some thousands. He then remembered the account given in Thorley's work on bees, of a swarm settling on the face and neck of a servant-maid, who escaped unhurt by the care and advice of her master, he, without irritating the swarm, having hived it from off her with a hive well smeared with honey. To avoid agitating the swarm, Mr. Simmonds slowly knelt down on the grass, and remained perfectly still. He then found that a number of bees were gathering in a mass under the waistband of his trousers, in the hollow of his back, to which spot the others were drawing, indicating that the queen was there. Fearing, therefore, that the tightness of the waistband—rendered tighter whenever he breathed—might crush, or at any rate irritate, this part of the swarm, he slowly unbuttoned the front of his trousers.

It is not easy to conceive a more helpless condition than that to which Mr. Simmonds was now reduced. He that was master of forty hives, from which he could usually levy what spoils he pleased, killing his thousands at pleasure with a brimstone match, was now completely in the power of one detachment of his own army, and was reduced to the most suppliant position. Even to call for help would have been dangerous, as the bees near his mouth would undoubtedly have been irritated, and would probably have entered his mouth. At this moment he heard a railway train on the Chertsey Branch Railway, from which he was about fifty yards. It fortunately happened that the engine-driver was known to him, and had a little commission from him to sound his railway whistle if he saw anything wrong among his cows or sheep.

The engine-driver seeing Mr. Simmonds on his knees, with one arm extended as if for help, and something odd hanging from his face, sounded his whistle. This was heard by Mr. Simmonds' wife, who, supposing that some cow was ill, sent her son and a farming man out into the fields. They soon found Mr. Simmonds in the predicament above described. In addition to the hanging mass, there was a cloud of bees still flying around him, so that that to approach him was not the most agreeable office. However, they came near enough to hear him speak, which he did very gently, merely saying: "bring me a bushel hive well rubbed with honey, and some bricks."

While they were gone at the top of their speed, he remained perfectly still. The tickling of the bees' feet on his face was almost unbearable, and the danger of irritating those that were down his neck and back was imminent.

The most difficult part he had to perform, however, was that before mentioned, of dissuading the bees with the ends of his fingers, from getting up his nostrils. These bees were not in good humor, as they were breathed upon, and were also deterred from doing as they pleased; and one bee showed his displeasure by stinging Mr. Simmonds at the fork of his two fingers. This was not pleasant of itself; but it was a serious occurrence, as it might be the preclude to a more extensive attack. He avoided making any start, and continued to push away as gently as he could those that were near his nostrils. This was the only safe place to breathe from, as it was necessary to keep his mouth entirely closed. Of course, the few minutes that elapsed before the return of his son and servant seemed a terribly long period to Mr. Simmonds, and during the whole of it he remained as motionless as possible on his knees.

On their arrival, the hive was placed on three bricks, with its mouth downwards, and Mr. Simmonds slowly laid himself on his breast on the grass, with his head close to the hive. The

honey soon attracted the bees nearest to it, and a slow movement of them took place, till at length the whole swarm gradually gathered itself under and within the hive, except a few patches of bees, which, in walking away, Mr. Simmonds easily disengaged from his dress with his hand, and made them join their companions. Mr. Simmonds thus escaped not only a very disagreeable but a perilous situation. It occupied two hours from the time that the bees alighted on their master to the time of his release.

[From the Bienenzeitung.]

Multiplication of Stocks.

In bee-culture it is an important question whether artificial multiplication of stock is to be adopted, or voluntary swarming is to be relied on. The decision depends in a great measure on *locality*, for special reference must always be had to *that* in the management of bees. I once put the question to Dzierzon, and his reply was—"If bees in your neighborhood are apt to swarm, you must not make artificial colonies; but where natural swarming is of rare occurrence, artificial multiplication should be resorted to, and can be used to great advantage."

In accordance with this advice, I made few artificial colonies in the last four seasons, because bees here commonly yield numerous swarms. A lot of ten stocks in straw-hives, purchased two years ago, proved to be particularly productive in this respect, and beneficially so, though artificial multiplication, too frequently resorted to here by some in the last few years, which were poor in honey, was obviously disadvantageous. Hence I am grateful for Dzierzon's advice, and glad that I followed it.

At the Bee-Convention in Gotha, I put the same question to the Baron of Berlepsch, remarking at the same time—"you must concede, sir, that a natural swarm is more industrious and makes more rapid progress than an artificial one." The Baron's reply was—"I will tell you how to make an artificial colony which will be quite as industrious and make as rapid progress. Take a populous stock and shake all its bees into a hive furnished with empty comb, sat this where the populous stock stood, and place the hive deprived of its bees on the stand of some other populous stock, removing the latter to a new location, and you will find you have a very industrious artificial colony." I am thankful to the Baron for this instruction, for colonies thus made cannot be excelled. As I do not intend enlarging my apiary much more, I shall make colonies in this manner yearly hereafter.

I have found it to be very advantageous also to feed each of my young stocks, whether natural swarms or artificial, with *diluted* honey every evening for three or four days after they are hived. If the honey is diluted, the bees will carry up and use a larger quantity than they will take from a comb of sealed honey inserted in their hive. They seem to regard the diluted article as supplied by nature, and therefore to be rapidly gathered up, thus stimulating their energy, and causing speedy and rapid comb-building.

We may readily understand why a natural swarm produces more wax, at first, and builds more comb than an artificial colony, when we consider that it consists exclusively of older bees already accustomed to out-door labors, and which moreover took with them a full supply of honey when leaving the parent hive. They are thus prepared to go to work immediately in their new home, and nearly all can leave to gather honey abroad, as they have no brood to nurse at home. Their activity, moreover, stimulates the queen to renewed and increased oviposition, which duty, likewise, she can discharge with greater despatch in the half-finished cells of the combs now being built, than in the full depth cells of the older combs given to artificial colonies. This is the reason why such large quantities of brood are often found in natural swarms, a few weeks after they were hived.

WEDELL.

In the season of oviposition the queen-bee may be discerned traversing the brood-combs in all directions with a slow step, seeking for cells proper to receive her eggs. As she walks, she keeps her head inclined, and seems to examine, one by one, all the cells she meets with. When she finds one to her purpose, she immediately gives her abdomen the curve necessary to enable it to reach the orifice of the cell, and to introduce it within it. The eggs are set in the angle of the pyramidal bottom of the cell, or in one of the hollows formed by the conflux of the sides of the rhombs, and being covered with a kind of gluten, they stand nearly upright.

The life of the drones is of very short duration, the eggs that produce them being commonly laid in the months of April and May, and their destruction being usually accomplished in July and August. The workers expel them from the honey-combs, and they collect in a dense mass on the bottom of the hive. Finally, weakened by the want of food, they are ruthlessly expelled, and either perish from starvation, or are worried to death by the incessant persecution of their relentless foes.

In olden time, in England, any man who wished to begin bee-keeping, had no difficulty in borrowing a swarm from a neighbor; and a year or two afterwards he repaid it by a first swarm, with from five to ten pounds of honey for interest, according as two or three years had passed since he borrowed.

Not a single ounce of honey was ever wasted by bees since the world was made. You do not waste your honey by feeding, but only, as it were, pour it out of one pot into another, where you may find it whenever you want it; and not only so, but you find a gallon where you put a quart.

For the American Bee Journal.

Mr. Editor: Your article in the March number on introducing queens agrees so near with my experience, that I enclose an article published in a January number of the *Iowa Homestead*. If bees are drummed out of the hive into a box or half bushel, and their queen taken away, they will invariably discover their loss in from five to fifteen minutes.

After introducing the queen into the box or half bushel, set it up leaning against something in the shade; the same side up that you would if it was full of grain. The sweetening process is not necessary in all cases, only in obstinate ones.

In Mr. Adam Grimm's article in the April number, he says that *two of his seven queens proved to be bastardized*, but he says that they must necessarily have been impregnated by Italian drones. Mr. Grimm lives in a timber country, for I have been there, and there might be wild bees near him.

On the first day of this month I found a large swarm of wild bees in a butternut tree, and I removed them home without disturbing them in the least. They have a perfect queen, and about one dozen perfect drones. This is the fourth wild swarm that I have found, at different times, with perfect drones saved over winter.

Once in Wisconsin I found a swarm on the first of February with about two dozen perfect drones, and the queen was all right. I think that bees in their natural and wild state are apt to keep a few drones over winter. Mr. Grimm might have had a wild swarm near him, with drones kept over winter, which met his two queens. We should be careful about our conclusions.

Querist wants to know which is the best width for top-bar to frames. Let him, or any one else, make one frame with the top-bar one-half inch thick, sharpened to an edge on the underside. The bees will commence on the knife-like edge, and as they build down, they will build out and up over the side of the bar, and attach the comb to the honey-board. If he takes off the honey-board, and puts on the honey-box, they will continue right up into the box.

So, Mr. Querist, you can vary the thickness to suit yourself. About 1⅛ inch thick, or one inch, they will not attach to the honey-board as much as where thinner ones are used. All the comb-guides I use have the underside of the top-bar bevelled to a V thus v, and they are all that Querist will want.

ELISHA GALLUP.

OSAGE, IOWA.

[From the Iowa Homestead.]

Introducing Italian Queens.

Drum out your bees and remove the native queen; then take honey or common white crush sugar, diluted with water, so as to be quite thin, but sweet; sprinkle the bees freely with it, and stir them up with a spoon until they are completely filled with sweet; also sprinkle what few bees remain in the hive with the sweet preparation. Then liberate your Italian queen with the bees that are drummed out of the hive, and they will accept her forthwith. As they have no comb to deposit their sweet in, they are obliged to retain it, and the queen will become acquainted with the bees, and *vice versa*. After letting them stand in the box twenty or thirty minutes, return them to the hive again, queen and all. She will be received all right in ninety-nine cases out of one hundred. I have repeatedly introduced them into common box-hives in this way with perfect success, and I find no trouble in introducing queens when the bees are gathering abundance of honey.

I have tried R. Colvin's, K. P. Kidder's, L. L. Langstroth's, J. W. Sharp's, Flander's, Mack's, Bidwell's, Quinby's, and King's plans, but they all keep the stock to be supplied without a queen for a longer or shorter period.

A stock of bees should never be without a fertile queen over twenty-four hours in the breeding season, if it can possibly be avoided, and it certainly can be if the apiarian understands his business, and has the right kind of hive.

ELISHA GALLUP.

OSAGE, IOWA.

For the American Bee Journal.

I would like to know through your *Journal* what advantage it would be to any one keeping bees—"common black bees"—to Italianize a few of his stock, and let them mix with the black bees? If in a few years it would improve his apiary, since it is impossible to keep them pure together?

W. W. C.

LIGHTSTREET.

[No advantage whatever would result from such a course.—ED.]

WHENEVER I have wanted to study fools at great parties, I have always looked round regularly for a great beauty. They gather round such a one like wasps around a fruit-woman. And if I had no other reason—I have, however—for marrying the handsomest woman, I would do it for this reason, if for no other, that I might always have the queen-bee sitting in the hollow of my hand, after whom the whole foolish bee-swarm would come buzzing.—*Jean Paul.*

IT IS not from want of pasturage that bee-culture is "a small business" in most countries, but from want of knowledge of the proper management. Climate and soil will generally be found well enough adapted to the business, when intelligence guides skill, and diligence directs the labor.—*Gravenhorst.*

COUNTING your hives is of small account. *Weighing* them tells their real value.

For the American Bee Journal and Gazette.

A Large Crop of Bees.

While the subject of restricting the amount of drones reared in each stock is appropriated by many bee-keepers, a *majority* doubtless regard it as a matter of little practical importance, and for the benefit of such I will give an item of my experience.

The summer of 1860 being a favorable one for bees in this locality, I had a large hive to which I attached a drone-trap in June, and caught and destroyed 4,900 drones, and did not get them *all* either. The stocks afterwards sent out one prime and two afterswarms, besides yielding twenty or twenty-five pounds surplus honey.

This amount of drones will not be surprising when we reflect that 154 square inches of drone-comb would produce them at one brood, or, in other words, four drone-combs 6 by 6½ inches. I have repeatedly found twice that amount, in transferring, (particularly from large hives,) to the Langstroth hive.

W. J. Davis.

Youngsville, Pa., April, 1867.

A row of hives well stocked with bees is always a good sign. It shows that the owner takes pleasure in his home. He has something to fill up his spare minutes better than the grog-shop, and far more profitable, too. Whenever I stop to have a talk with him about the bees, I always get a civil answer, and thanks for anything I tell him.

I have observed that flowers which are favorites with bees in some situations, are in others passed over by them with apparent indifference. I think that this shows that climate, soil, situation, as well as seasons, have more influence in adapting flowers to bees than many persons would imagine.

Men in great States, and bees in great hives, suffer a loss of courage and warmth; accordingly now-a-days they join to small countries other small countries, as they do to bee-hives colony-hives.—*Jean Paul.*

Honey, whilst in the combs, will keep remarkably well when left in the supers; when cut out, afterwards, the combs should then be folded in writing-paper or envelopes and sealed up, so as effectually to prevent the free entrance of air. They should be placed in a warm dry closet.

Dzierzon, the celebrated German apiarian, first discovered the production of males from unfecundated queens, and to him the thanks of bee-keepers are due.

MONTHLY MANAGEMENT.

May.

The increased and steadily increasing activity of the bees now demands constant supervision and attention. The hives should be regularly inspected, and all droppings and impurities removed from the bottom-boards. These will be accumulating so long as the bees are cleansing and repairing the combs, and if not promptly taken away, will become a receptacle for the larvæ of the bee-moth, from which they will make rapid and destructive inroads into the yet unoccupied portions of the hive, and prove ruinous to weak colonies. As it is difficult, if not impracticable, to dislodge these pests from cottage-hives, it is wise to deprive them, so far as we may, of all facilities for entering. The empty combs in movable comb-hives should also be carefully reinspected at this time, and the worms removed, if any are found.

If the weather is fair and mild, the bees will be able to gather sufficient supplies for themselves and their brood from the early wild flowers and the blossoms of the fruit trees. But if cold or rain prevent them from foraging freely on these, they should be liberally fed, to prevent any interruption in brooding till a favorable change occurs.

In some locations, strong colonies will, in propitious seasons, produce swarms about the middle of this month. These coming at a time when pasturage is not yet abundant, and while the weather is still unsettled, require special attention. It is always advantageous to feed such early swarms plentifully, particularly if they cannot be furnished with a supply of empty combs, because then much honey will be needed for the elaboration of wax. But when bad weather follows the hiving of such swarm, feeding may be absolutely necessary for their preservation, and should hence on no account be neglected under such circumstances, even if these arise at a late period.

An adequate number of empty hives should have been provided in anticipation of the swarming season. These must be kept clean, sweet, dry, and well aired. Damp, mouldy, or tainted hives are unacceptable to bees, and will not unfrequently be deserted by the swarms introduced therein.

Artificial colonies may be made from strong stocks as soon as drones make their appearance in an apiary, or drone-brood is found so far advanced towards maturity as to be sealed over. Drumming or driving out a colony from a cottage-hive should not be undertaken till the population has become sufficiently numerous to compel a portion of the bees to cluster outside of the entrance over night; and then it should be promptly done.

Poor seasons for honey are school seasons for bee-keepers. He is the best scholar who soonest learns to profit most by his losses.